

Appl. No. 10/759,505
 Amdt dated October 26, 2007
 Reply to Office Action of July 26, 2007
 Att. Docket No.: 1279-400CI

Filing date: January 16, 2004
 Applicant Name: Bazan et al.
 Examiner: Camie S. Thompson
 Art Unit: 1774

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

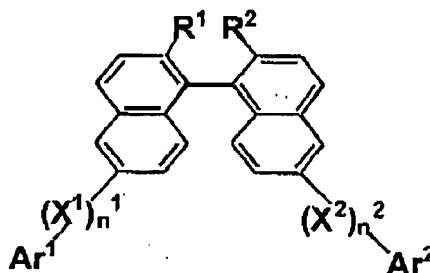
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Listing of Claims:

Claim 1 (canceled)

Claims 2 and 3 (canceled)

Claim 4 (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula:



wherein each Ar^1 and Ar^2 is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X^1 and X^2 is independently a substituted or non-substituted aromatic hydrocarbon, each n^1 and n^2 is independently 0 or 1, each R^1 and R^2 is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R^1 and R^2 can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by $(\text{X}^1)n^1\text{Ar}^1$, $(\text{X}^2)n^2\text{Ar}^2$, R^1 and R^2 .

Claim 5 (currently amended) The ~~binaphthyl~~ binaphthyl compound of claim 4 wherein each R^1 and R^2 is an alkoxy group.

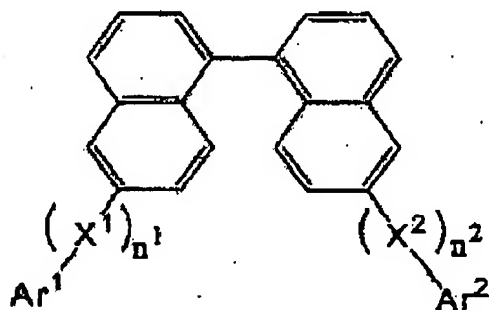
Claims 6 - 11 (canceled)

Claim 12 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a layer between the emissive layer and the cathode comprising the ~~binaphthyl~~ binaphthyl compound of claim 4.

Appl. No. 10/759,505
 Amdt dated October 26, 2007
 Reply to Office Action of July 26, 2007
 Att. Docket No.: 1279-400C1

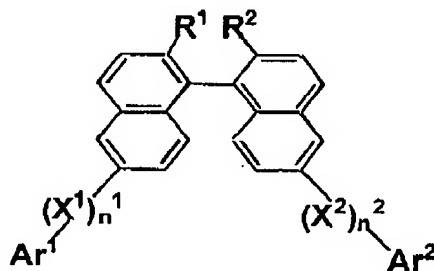
Filing date: January 16, 2004
 Applicant Name: Bazan et al.
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 Art Unit: 1774

Claim 13 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a ~~binaphtyl~~ binaphthyl compound of the formula:



wherein each Ar¹ and Ar² is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X¹ and X² is independently a substituted or non-substituted aromatic hydrocarbon, each n¹ and n² is independently 0 or 1, and wherein the compound's ~~binaphtyl~~ binaphthyl framework can be independently substituted at any position except those occupied by (X¹)_{n¹} Ar¹ and (X²)_{n²} Ar².

Claim 14 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a ~~binaphtyl~~ binaphthyl compound of the formula:



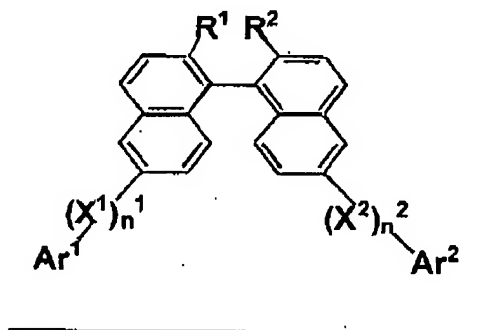
wherein each Ar¹ and Ar² is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X¹ and X² is independently a substituted or non-substituted aromatic hydrocarbon, each n¹ and n² is

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 Art Unit: 1774

independently 0 or 1, each R^1 and R^2 is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R^1 and R^2 can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by $(X^1)_{n^1} Ar^1$, $(X^2)_{n^2} Ar^2$, R^1 and R^2 .

Claim 15 (currently amended) An organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising a binaphthyl compound of the formula:

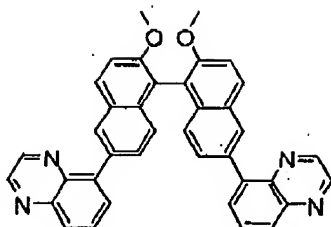


wherein each Ar^1 and Ar^2 is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X^1 and X^2 is independently a substituted or non-substituted aromatic hydrocarbon, each n^1 and n^2 is independently 0 or 1, each R^1 and R^2 is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R^1 and R^2 can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by $(X^1)_{n^1} Ar^1$, $(X^2)_{n^2} Ar^2$, R^1 and R^2 .

The organic light emitting device of claim 14 in which the hole-blocking layer between the emissive layer and the cathode comprises a compound of the formula:

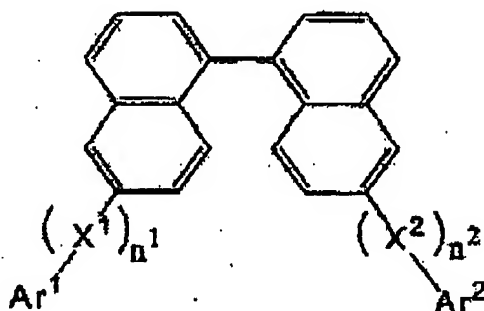
Appl. No. 10/759,505
 Amdt dated October 26, 2007
 Reply to Office Action of July 26, 2007
 Att. Docket No.: 1279-400C1

Filing date: January 16, 2004
 Applicant Name: Bazan et al.
 Examiner: Camie S. Thompson
 Art Unit: 1774



Claims 16 and 17 (canceled)

Claim 18 (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula:

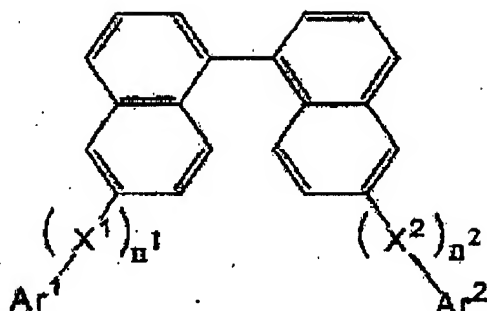


wherein each Ar^1 and Ar^2 is independently a three, four or five-condensed aromatic ring, each X^1 and X^2 is independently a substituted or non-substituted aromatic hydrocarbon, each n^1 and n^2 is independently 0 or 1, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted at any position except those occupied by $(X^1)_{n^1} Ar^1$ and $(X^2)_{n^2} Ar^2$.

Claim 19 (currently amended) An organic light emitting device having an anode and cathode and an emissive layer between the anode and cathode, the emissive layer comprising:
 a ~~binaphthyl~~ binaphthyl compound of the formula:

Appl. No. 10/759,505
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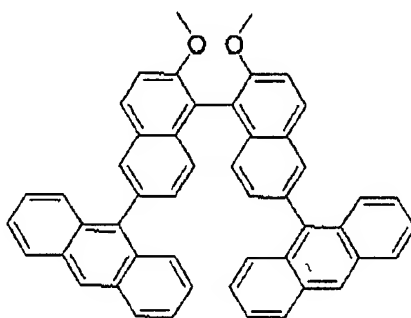
Filing date: January 16, 2004
 Applicant Name: Bazan et al.
 Examiner: Camie S. Thompson
 Art Unit: 1774



wherein each Ar¹ and Ar² is independently a three, four or five-condensed aromatic ring, each X¹ and X² is independently a substituted or non-substituted aromatic hydrocarbon, each n¹ and n² is independently 0 or 1, and wherein the compound's ~~binaphthyl~~ binaphthyl framework can be independently substituted at any position except those occupied by (X¹)_{n¹}Ar¹ and (X²)_{n²}Ar²;
 and

fac-tris(2-phenylpyridine) iridium(III) as a phosphorescent dye dopant.

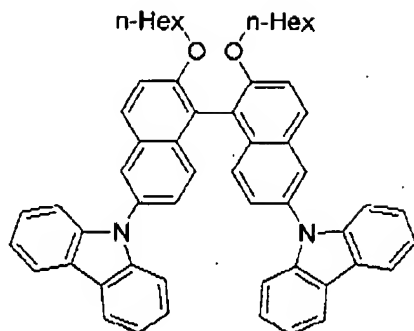
Claim 20. (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula



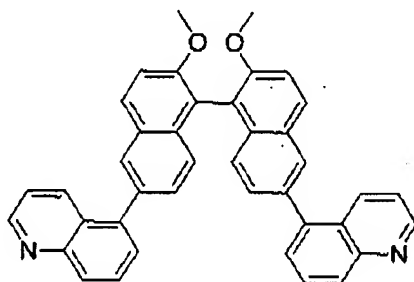
Claim 21. (currently amended) A ~~binaphthyl~~ binaphthyl compound of the formula

Appl. No. 10/759,505
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Att. Docket No.: 1279-400C1

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Art Unit: 1774



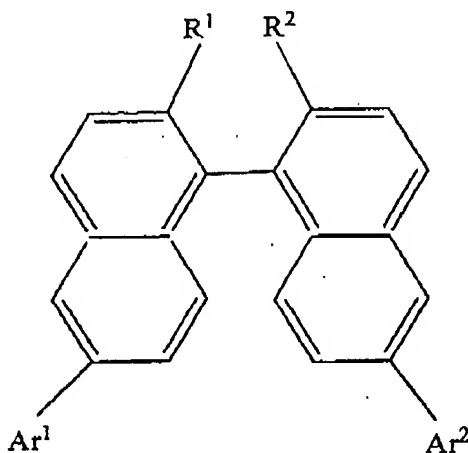
Claim 22. (previously presented)) The organic light emitting device of claim 14 in which the hole-blocking layer between the emissive layer and the cathode comprises a compound of the formula:



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 Art Unit: 1774

Claim 23 (new) A binaphthyl compound of the formula:



wherein each Ar¹ and Ar² is independently a substituted or non-substituted polycyclic aromatic hydrocarbon or a substituted or non-substituted aromatic heterocycle, each X¹ and X² is independently a substituted or non-substituted aromatic hydrocarbon, each n¹ and n² is independently 0 or 1, each R¹ and R² is independently a hydroxyl group, a substituted or non-substituted alkyl group, or a substituted or non-substituted alkoxy group, wherein R¹ and R² can be bound to each other to form a ring structure wherein the ring structure can have substituent groups, and wherein the compound's binaphthyl framework can be independently substituted by a halogen, a hydroxyl group, or a substituted or non-substituted alkyl, alkenyl, alkoxy or alkoxycarbonyl group at any position except those occupied by (X¹)^{n¹} Ar¹, (X²)^{n²} Ar², R¹ and R².